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## 7. ECOLOGY AND BEHAVIOUR OF GREAT INDIAN BUSTARD (FAMILY OTIDIDAE)

### INTRODUCTION

In Maharashtra the Great Indian Bustard is seen in Ahmednagar, Sholapur and Aurangabad districts in some numbers. The survival of the great Indian Bustard in these three districts is due to the presence of suitable habitat in the form of new forest areas which are being developed by D.P.A.P. and which provides them sufficient cover and food. These areas are protected from trespassers and are used for cultivation of new grass types such as Hamatu and Scresis under the guidance of the World Bank.

The present study was undertaken with a view to develop measures for its conservation as the bird is on the verge of extinction.

### HABITAT

The study was carried out at Nanaj, a small village 16 km from Sholapur city, and at Karmala of the same District of Maharashtra. Nanaj village is well known for its grapes. Under D.P.A.P. Scheme nearly 100 hectares of stony land 2 km from the village has been brought under a very successful plantation

programme. The whole area from Sholapur to Nanaj is bare open rocky land and Nanaj plantation is the only green patch in it. The height of the grass is c. 1 m, and the trees have grown to nearly 1.5 to 2 m. There is a small lake also near the plantation.

Karmala Taluka is well known for its barren landscape. Water is so scarce that people are not willing to give their daughters to youths from this place. Under D.P.A.P. Scheme the forest department is afforesting about 200 hectares of land which the birds inhabit.

I have seen a number of birds (7 to 12) at Karmala, another four birds at Akalkot Road near Sholapur City and 2 at Degaon, a place hardly 4 km from Sholapur City. The total number of Bustards in the district will not be more than 25 today.

### STUDY METHODS

The study commenced from 7th September, 1978 and continued till 9th August, 1980, and covered the hatching period at Nanaj in the month of September, and breeding period at Karmala and other places in November, December, January and March.

I made 15 visits, eight times to Nanaj, (observation of hatching) 6 times to Karmala and twice to other places, like Akalkot and Degaon, spending 2/3 hours in the morning and evening watching the birds. I counted 12 birds at Karmala and a pair at Nanaj. Since it is easy to get near the birds by a jeep, I could count them easily. One flock, had 6 birds, one male and 5 females.

## RESULTS AND DISCUSSIONS

*Population:* A cause of great concern has been the dwindling numbers, though I was fortunate enough to locate a flock of 12 in 1978 and 1979, recently I could see only 3 birds and that too after waiting for 3 days.

*BREEDING:* I saw an egg at Nanaj on 7th October, 1978 which hatched after twenty days. The chick died due to heavy rains after 15 days. Again on October 24th 1979 an egg was found in shallow ground. On this occasion breeding was successful and the chick was seen running with its mother and when I went near it took shelter in the grass, keeping absolutely silent for some time. Afterwards it started making low cries to attract the attention of the mother. On each occasion only one egg was laid. The male was not close by.. Though I cannot vouch for it I believe that the pair was the same in both years.

*Food:* The grasslands are their usual habitat but they forage for food in the low standing crop. They thrive on locusts, beetles, various other insects, snails, lizards and snakes. They also feed on grain shoots in the fields, mainly Bajra and its leaves and berries of *Capparis*. I have also seen them eating eggs of lark and one live sparrow was caught by a male Bustard. Just to find out the quantity of insects available for bustard the following experiment was made. During night a bucketful of water was kept under a fluorescent tube

and in the morning the bucket was full of insects (mainly grasshoppers) and the weight was about 1 Kg. When these birds walk in the field, insects fly up and are often caught in flight.

*Calls:* In the evening I heard the call of the male, a bell like "hook" which alerts the flock. Some time the call is a soft 'hook'. But often sounds like the bursting of a rubber balloon can be heard from a long distance. The people of Karmala recognise its call and can exactly imitate the sound.

*Behaviour:* The male Bustard is wary and is usually seen 20 to 30 m from the flock. The white neck as it stands is very noticeable and that is why we can see and find it easily. Among bushes the bird is well camouflaged. In Bajra crop I have twice seen the bustard moving slowly with its upright neck looking just like periscope. Bajra field affords good protection and is a main crop in this area. The birds forage from morning to sunset constantly. I have watched a flock of 4 to 5 feeding for nearly 8 to 9 hours in a Hulga plantation at Devichamal, Karmala.

## CONCLUSION

My observations suggest that the Bustard is a resident species in Sholapur District and its breeding areas need protection. The bustard is under severe poaching pressure. A local villager offered to get us a chick of the bird for Rs. 5/- and an adult for Rs. 10/- to 15/-. Local Tribes kill it mercilessly and sell its meat. The Forest Department is unable to protect it. The Police Department does not know its importance though the bird is on the verge of extinction.

Local people are not aware that it is a species protected by law. The local farmers do not kill them but also do not give any protection.

*Recommendations:*

1. There should be more vigorous and effective conservation programmes.
2. The local people should be educated on the importance of this bird.
3. After the completion of the D.P.A.P. Scheme it has been decided to give the grasslands for sheep grazing. Some arrangements should be made so that the bustard is not deprived of their feeding ground.
4. Shooting by any weapon should be prohibited.
5. At present the bustard survives in Maharashtra in three widely separated districts. The proposed sanctuary should be brought

into existence early as possible and a trained ornithologist appointed as officer-in-charge.

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8. OCCURRENCE OF THE SOOTY TERN (*STERNA FUSCATA*)  
IN BOMBAY—AN AUTHENTIC RECORD

At about 6.30 p.m. on 26th May, 1980, I went to the Tata Institute of Fundamental Research, situated at the southernmost tip of Bombay Island, and my attention was drawn to a dead bird which had been picked up by a gardener on the Institute Premises. The specimen was brought to the Society's offices and subsequently identified as the Sooty Tern (*Sterna fuscata*). It was sexed a male (Wing 288, Bill 42, Tarsus 19, Tail 159) and has been added to the Bombay Natural History Society's collection under Registration No. 24422. It has not been possible to determine the subspecies.

Though older records said that this bird occurred near Bombay, Abdulali (1970, JBNHS, 67(1):110-111) discussed the evidence available and concluded that there was

no authentic record from this area. He also questioned his own record of the bird breeding on the Vengurla Rocks, West coast, India (1942, JBNHS, 43(3):446-451) as the specimens then examined were not available for re-examination.

The present specimen would therefore be the first satisfactory record from this area. It was of course known to breed in great numbers further south at Cherbaniani Reef in the Laccadive Islands (Hume, 1876, *Stray Feathers*, Vol. 4 pp. 477).

Incidentally Mr. Abdulali has drawn my attention to an excellent article by Robertson, W. and Kahl, M.P. (1980, *National Wildlife*, Vol. 18(2):37-39) where there is reference to a ringed bird of this species surviving for 32 years.